Monitoring Report

1. This report provides information related to recent permitting within the EIS study area.

2. Data for permits issued from January 1, 2000 to April 16, 2002 within the EIS study area were extracted from the Corps permit tracking database (RAMS.) The data entries were checked and in some cases the permit files themselves were pulled. Permits for the following types of projects were not included since these were not included in the original tally of permits performed for the EIS: shoreline protection, subaqueous crossings, boatramps, bridge/related work (generally was dredging), dredging, piers, minor structures, control and outfall structures, navigation aids, and wetland reclamation projects.

a. 3,113 acres of fill authorized by Individual Permits from January 1, 1998 to April 16, 2002.

b. Acres of mitigation required for these Individual Permits, broken down by mitigation types below. These are unique numbers, for example, an acre is either counted as "restored" or "preserved", but not both.

(1) 8,797 acres created, restored, enhanced.

(2) 837 credits purchased from mitigation banks.

(3) 565 acres enhancement/restoration within CREW, Six Mile Cypress Slough, etc.

(4) For some permits, the acres of enhancement/restoration was not entered into the database but the monies paid were entered. These totaled $716,144

(5) 777 acres of wetlands preserved.

(6) 6,467 acres of upland preserved

c. 80 acres of fill authorized by Nationwide Permits verified from January 1, 1998 to April 16, 2002.

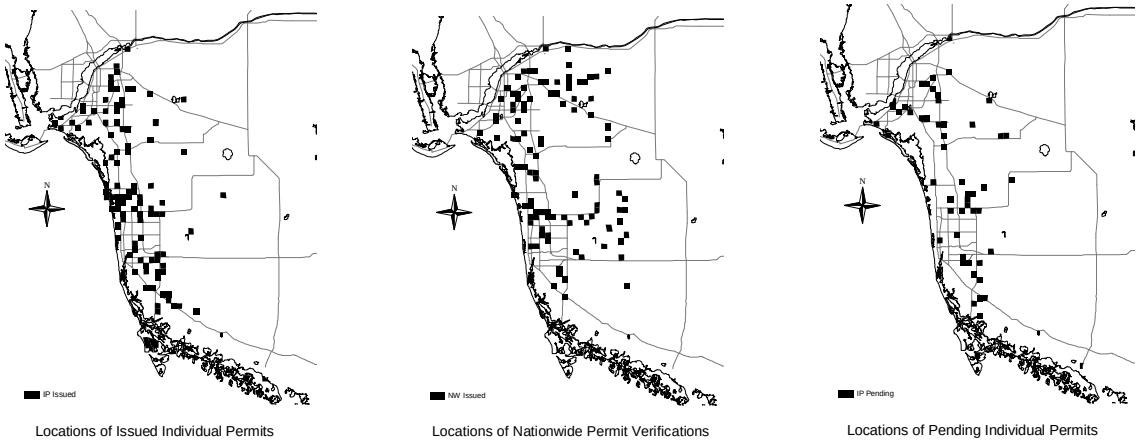
(1) Mitigation performed by permittee: 143 acres

(2) Mitigation by purchasing credits at Bank: 16 credits

(3) Mitigation by other: 35 acres

d. 2,667 acres of fill in pending applications for Individual Permits on April 15, 2002.

e. Figure 1 shows the Public Land Survey Sections (one square mile) where one or more permits were issued, verified, or pending.



Locations of Issued Individual Permits | Locations of Nationwide Permit Verifications | Locations of Pending Individual Permits

Figure 1. Locations of permits.

3. For this reporting period, the annual average fill authorized is 732.5 acres per year. The EIS provides five predictions of the total quantity of fill, ranging from 5.5% to 7.0% of the total area of wetlands. The predicted annual average thereby ranges from 728 to 1,059 acres per year. Therefore, the pace of permitting during the 4-1/4 year reporting period is near the lower range. However, permit authorizations do not occur in an even rate. Figure 2 shows the average acres/year but calculated for each individual one-year period. Each of the spikes are caused by a few large permits, for example, in April caused by the authorization for the new terminal at the airport. The longer the period over which the acres/year calculation is based, the more that such spikes are eliminated. Also note that this does not include any mitigation acres.

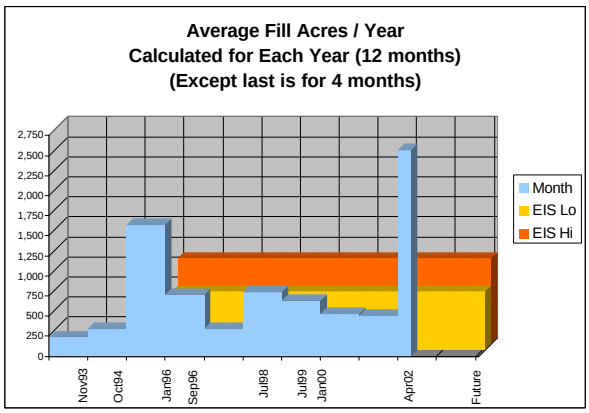


Figure 2. Permit trend.

4. Figure 3 provides the result of the analysis of acres of fill per permit. Only a small percentage of the permits result in a large proportion of the total fill authorized by permits. The shape of the curve is close to the shape for data from the entire State of Florida.

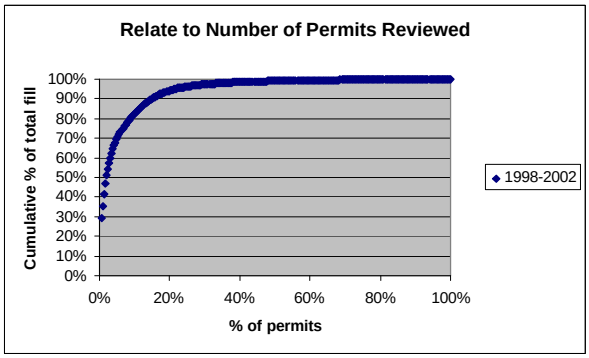
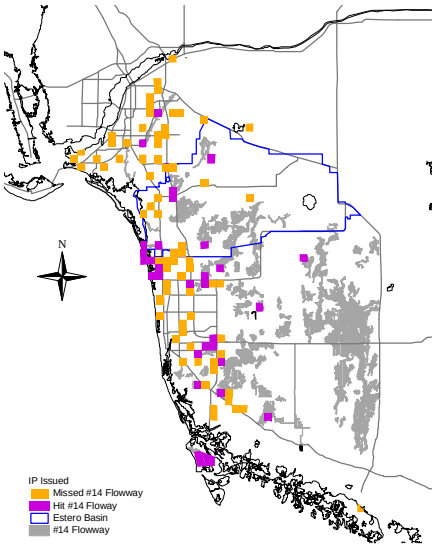


Figure 3. Acres fill per permit.

4. The locations of the permits were then correlated to the 16 maps found in Appendix H of the EIS. A "hit" was defined when a permit was located in a Public Land Survey Section (a square mile) where any portion of that Section was mapped "flowway." Therefore, the number of "hits" is conservative since a permit could be located in a portion of the Section that was not mapped. Also, site specific information obtained during the permit review may have identified the issue as not relevant. In addition, a project that "hit" a flowway may have also incorporated measures to address this concern, for example, the site plan may have been adjusted so no fill was placed in the flowway or culverts may have been installed to minimize the impact. An elaborate permit-by-permit analysis of the permits

was not performed but decision documents for future permits will include an assessment of the "hit" identified during the screening of the incoming application. But the analysis does allow a comparison of the number of permit "hits" to the number of hits that would occur from a random "dart-throw" into the landscape. Figure 4 illustrates the overlap of permits for the "flowways" map and the accompanying table provides the comparison to the "dart-throw."

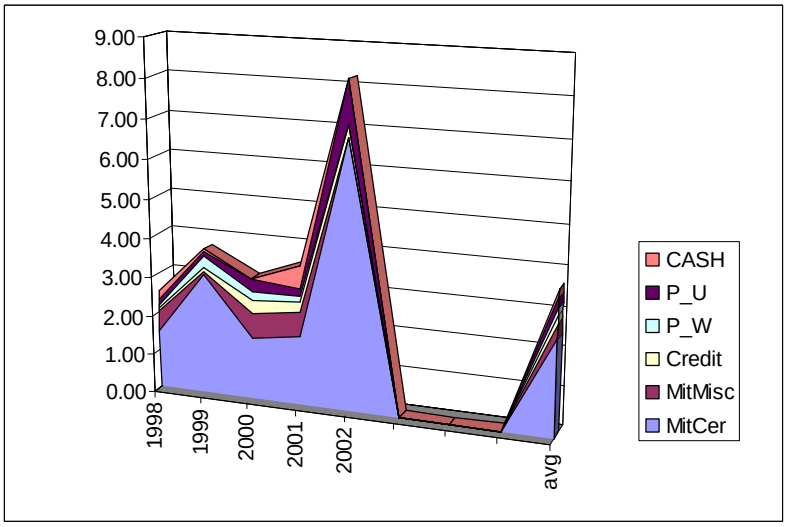


Locations of Pending Individual Permits

CARACARA	MARSH	PANTHER	SHOREBIRD	RCW	SCRUBJAY	COASTAL	ROOKERY	HIGH WET PROPORTION	HABITAT FRAGMENTATION	EAGLE	FLOWWAY
Percent of actual permits that overlap a mapped area ("hits")											
6%	39%	36%	12%	14%	33%	35%	0%	46%	59%	13%	32%
Percent of land (outside preserves) that is mapped ("dart-throw hits")											
29%	44%	72%	3%	24%	33%	10%	4%	47%	55%	4%	26%

Figure 4. Comparison of permits locations to Natural Resource maps.

5. Figure 5 provides the results of an analysis of the mitigation ratios for each of the four years of the reporting period. Each of the types of mitigation (wetland restoration, mitigation bank credits, etc.) is kept separate. In theory, each unit of, say, mitigation bank credits, could be converted to an equivalent acres of on-site wetland restoration, if a permit-by-permit analysis was performed for this monitoring report. Many permit decisions are using a numeric functional assessment to assist in the determination of appropriate mitigation but due to variety of site-specific situations, a uniform accounting method is not available to enter into the database that would supplement the plain "acres" and "credits" units.

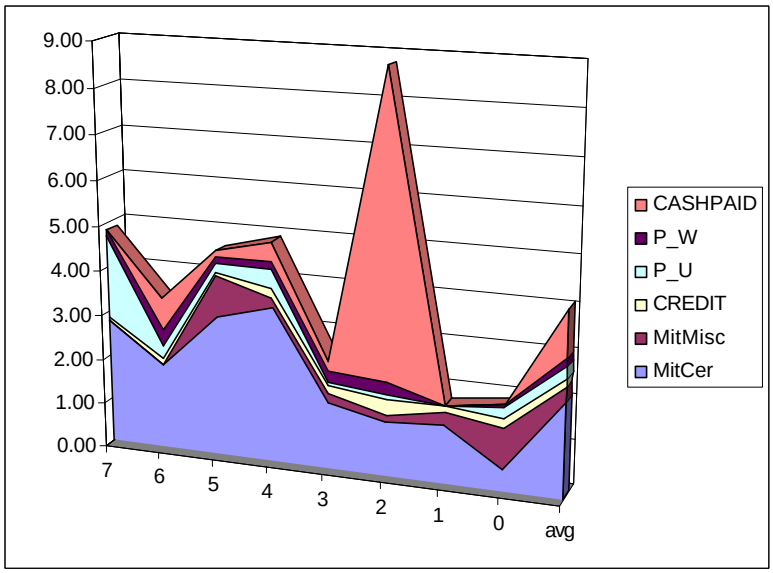


Y-axis = $/acre of fill or acres/acres of fill or credits/acres of fill
X-axis = year in which permit issued

CASHPAID = $
P_W = Acres of peserved wetlands
P_U = Acres of preserved uplands
CREDIT = Units purchased from mitigation bank
MitMisc = Acres of land acquired/restored by some arrangement
MitCer = Acres created, enhanced, or restored

Figure 5. Mitigation ratio trend.

6. Figure 6 provides the results of an analysis of the mitigation ratios for groups of permits that have the same number of "hits" on the overlay maps. There appears to be a possible correlation of higher the number of hits the higher the mitigation, though there are a large number of other variables that will also affect mitigation ratio.



Y-axis = $/acre of fill or acres/acres of fill or credits/acres of fill
X-axis = number of "hits" on the Appendix H natural resource overlay

CASHPAID = $
P_W = Acres of peserved wetlands
P_U = Acres of preserved uplands
CREDIT = Units purchased from mitigation bank
MitMisc = Acres of land acquired/restored by some arrangement
MitCer = Acres created, enhanced, or restored

Figure 6. Mitigation ratio vs. "hits"

7. The Corps is studying the results of this monitoring report to develop measures that could be used to assess the permitting program.